SRC Energy Update

COURTESY OF SENATOR MARK SCHOESLER

Ranking Republican, Senate Agriculture & Rural Economic Development Committee

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Dear Friends,

Welcome to the second edition of the SRC Energy Update. The Energy Update examines aspects of Washington's energy climate and new ideas regarding energy. It also will let readers know what proposals the Senate Republican Caucus is crafting to make our state "energy strong" and less dependent on energy sources from outside Washington.

In this issue:

Why are fuel costs higher today?

Unless you've spent the last several months locked in your home and off the roads, you know gas prices have been on the rise. While the call to investigate price gouging goes on, all indications are that it just isn't happening.

So why are fuel prices on the rise? The answer lies in a simple economics lesson: supply and demand. As burgeoning economies like those in China and India demand more energy, supply gets tighter and prices for a limited commodity go up.

Remember that feeling you had as a kid when you really needed or wanted something, but the kid down the street was the one who had it? That's where America finds itself today. Despite this looming crisis, we have not developed our own energy resources, and we are highly dependent on foreign oil. Fully half the oil we use is imported; by

contrast, 85 percent of the natural gas we use is produced domestically, and the rest comes from Canada.

In the short term, dealing with this crisis may require continued exploration for domestic oil sources and the development of new refining capacity. But in the long term, it is vital that we promote and encourage the development of new energy supply technologies. That includes stimulating the production of alternative fuels by offering incentives, particularly ones that will ensure Washington farmers and other local businesses provide the material used to make those fuels. If we follow that model, we won't be dependent on outside sources for our energy. And that, hopefully, would moderate prices in the long term.

Congress needs to agree on offshore drilling bill

There was encouraging news last week out of Washington, D.C., where leaders in the U.S. Senate produced a compromise on offshore oil and natural gas drilling. An Associated Press story said the deal would limit new offshore development – outside the central and western Gulf of Mexico – to an area of the eastern Gulf known as Lease Area 181, and would protect waters within 125 miles of the Florida coast. Government geologists estimate that this 8-million-acre area contains at least 5 trillion cubic feet of natural gas and 1.1 billion barrels of crude oil.

The next step is for the U.S. Senate to pass this proposal and then work out a compromise with the U.S. House of Representatives on this issue. The House last month passed a bill that would end, beyond 50 miles, the long-time drilling moratorium that has been in effect in virtually all water outside the central and western Gulf of Mexico, although the proposal would give states a way to maintain the drilling ban if they chose. The Senate plan, which is expected to receive Senate floor consideration later this month, would keep the current ban intact and extend it by 10 years to 2022.

It's very important that the House and Senate reach a worthy compromise on offshore drilling soon. Natural gas is the key component of nitrogen fertilizer on which farmers depend. Fertilizer prices have risen dramatically, making the U.S. more dependent on foreign fertilizer. Higher fertilizer prices are yet another extra cost that farmers in Washington and elsewhere must endure.

BPA expects to cut power rates this October

The Bonneville Power Administration provided many Northwest power users with good news yesterday when it announced it expects to cut wholesale power rates later this year. It would be the fourth straight year that BPA has cut its rates. According to a BPA news release, the new rate for power sold to BPA's preference utility customers is expected to drop about 3 percent from existing rates. BPA Administrator Steve Wright credited regional collaboration, stringent cost management, and a normal water quantity year that produced surplus power sales. Final rates will be announced in September and go into effect on Oct. 1.

At a time when so many Washington residents and businesses have been forced to pay higher fuel and power prices in recent years, a drop in BPA's power rate is very welcome news. If Northwest utilities that buy BPA power share these lower rates with residential and business consumers, it will help improve our economy even more.

We keep hearing about “alternative fuels;” what are they, and how can we use them?

Biomass – “Biomass” refers to any renewable, plant-derived organic matter, including crops and trees, agricultural food and feed crops, agricultural crop wastes and residues, wood wastes and residues, aquatic plants, animal wastes, municipal wastes, and other waste materials. Using bioenergy technologies (see below), biomass is used to make fuel sources (such as ethanol) that can replace many of the traditional energy sources we use today. It offers tremendous promise because it reduces pollution and greenhouse gas emissions, supports rural communities, can be produced within our borders, and, unlike oil, is a sustainable resource. Washington State University, University of Washington and the Pacific Northwest National Labs (PNNL) in Richland are doing some of the country’s best research on biomass.

Bioenergy – Bioenergy technologies use renewable biomass resources (described above) to produce an array of energy-related products, including electricity; liquid, solid, and gaseous fuels; heat; chemicals; and other materials.

Ethanol – Ethanol can be used either as an alternative fuel or an additive to gasoline (known as an ethanol blend). Although most people associate ethanol with corn, it can also be made from cellulosic (plant fiber), biomass (described above), industrial waste, material in municipal solid waste, trees, and grasses. All gasoline vehicles are capable of operating on gasoline/ethanol blends with up to 10% ethanol (a blend sometimes called “gasohol”). But using E85, a blend of 85 percent ethanol and 15 percent gasoline, requires purchasing a “flexible fuel vehicle” specifically made to use an alternative fuel. Currently, none of Washington’s public filling stations sell E85.

Nationwide, ethanol use is catching on – in 2005, more than 4 billion gallons of ethanol were used out of a total gasoline pool of more than 120 billion gallons. Earlier this year, the Washington Legislature passed a law that beginning Dec. 1, 2008, all gasoline sold in Washington must contain at least 2 percent ethanol.

Biodiesel – Biodiesel is a renewable fuel made from domestically grown crops like soybeans and mustard seed, or from recycled cooking grease. Biodiesel is nontoxic, biodegradable, and emits fewer carcinogens than conventional diesel fuel. It can be substituted for diesel entirely (B100) or used as a blended additive to regular diesel (typically 20 percent - B20).

Biodiesel blends can be used in any light- or heavy-duty diesel engine, require little or no engine modification, and maintenance costs are comparable to those of conventional diesel vehicles. However, it is important to check with your manufacturer before using biodiesel. Using anything higher than a B20 blend usually requires the purchase of a new vehicle. According to the Department of Energy, 14 public filling stations in Washington currently sell biodiesel. The 2006 Legislature passed a law requiring that beginning Nov. 30, 2008, at least 2 percent of diesel sold in Washington must be biodiesel.

E-Diesel – E-Diesel is a fuel that uses additives to allow blending of ethanol with diesel. It includes ethanol blends of 7.7 percent to 15 percent, and up to 5 percent special additives that prevent the ethanol and diesel from separating at very low temperatures or if water contamination occurs.

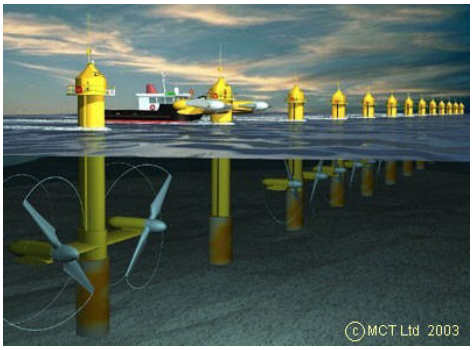
Source: U.S. Department of Energy

Energy fact:

Washington ranks 17th in the nation for gasoline consumption *(Energy Information Administration)*

Another potential energy source – tidal power

Every day, thousands of commuters travel over the Narrows Bridge. Very few of them realize the great energy potential flowing beneath them.



Tidal power is a means of electricity generation achieved by capturing the energy contained in moving water mass due to ocean tides.

A tidal turbine looks like a smaller version of a wind turbine. But whereas a windmill uses air movement to create energy, a marine turbine uses currents in the water. Tidal turbines are laid out in rows underwater, similar to wind farm formations.

Tidal power proponents say it could rival wind power because ocean currents are more reliable (two high tides and two low tides in a period slightly more than 24 hours) and because they are less obtrusive; a marine turbine is built on a seabed and projects just a few feet above the surface.

There currently are no tidal power plants in the U.S. However, the U.S. Department of Energy said the Pacific Northwest and the Atlantic Northeast regions of our nation both have good conditions for tidal power generation.

In fact, the Tacoma Narrows has been viewed as a potential source of tidal power for several years. The News Tribune earlier this week ran a story ("*Power plant could harness tidal energy of Narrows*") about this very topic.

In May, Seattle P-I business columnist Bill Virgin reported that Puget Energy Inc. has provided money for a study of technology that uses the motion of tides through the Tacoma Narrows to generate electricity.

But the Tacoma Narrows isn't the only potential Washington location for tidal power. According to a recent story in The Bellingham Herald, the Washington, D.C., law firm Pillsbury Winthrop Shaw Pittman and Massachusetts-based consulting and engineering company TRC Environmental applied to the Federal Energy Regulatory Commission (FERC) for a permit to install 100 to 300 tidal turbines in Deception Pass (between Whidbey and Fidalgo islands) that would supply power to a local utility.

Energy trivia question:

Which nation has the most nuclear power plants in the world?
Answer: United States, with 104 plants. France is second, with 59 plants, followed by Japan with 52 plants. *(Nuclear Energy Agency)*

U.S. Department of Energy looks into development of cellulosic ethanol

The U.S. Department of Energy early this month released a new research agenda for the development of cellulosic ethanol as an alternative to gasoline. The 200-page scientific "roadmap" cites recent advances in biotechnology that have made cost-effective production of ethanol from cellulose, or inedible plant fiber, an attainable goal.

The agenda is in response to the goal announced by U.S. Secretary of Energy Samuel W. Bodman of displacing 30 percent of 2004 transportation fuel consumption with biofuels by 2030. The report, "Breaking the Biological Barriers to Cellulosic Ethanol: A Joint Research Agenda," and a fact sheet on the report may be viewed at http://www.doegenomestolife.org/biofuels/. For more information on the Office of the Biomass Program in the Office of Energy Efficiency and Renewable Energy, visit http://www1.eere.energy.gov/biomass/.

Energy use by the average home

According to Energy Star, energy use by the average home contributes more to air pollution and climate change than the average car. Here is Energy Star's breakdown of the typical home energy bill (view pie chart): Heating/cooling - 48%; Water heater - 13%; Clothes washer & dryer - 6%; Lighting - 5%; Refrigerator - 6%; Dishwasher - 2%; Computer monitor - 1%; TV, VCR, DVD - 2%; Other - 17%.

Easy steps to save energy

The U.S. Department of Interior has provided a list of 10 easy steps to conserve energy and save money:
1) Turn off lights when not in use.
2) Use public transportation whenever possible.
3) Only wash dirty dishes when the dish washer is full and then let them air dry.
4) Set your computer on "sleep mode" after 15 minutes of non-use.
5) Take short showers and install "water saver" shower heads.
6) Turn off the television when not in use.
7) Do not exceed the speed limit and maintain a steady speed when driving.
8) Check doors and windows and eliminate wind leaks and drafts using caulking and weather stripping.

9) In winter, dress warmly and set the thermostat at 68 degrees during the day and 60 degrees or lower at night. During summer, dress lightly and set the thermostat at 78 degrees or higher.
10) Replace burned-out incandescent light bulbs with compact fluorescent bulbs.